## IAPS ROC'S PCT/PTO 03 FEB 2006

We claim:-

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1		polyester mixture	COMPRISING
	A bloacgradable	polycolor mixture	COLLIDITIONING

from 5% to 80% by weight, based on the total weight of components i to ii, of at least one polyester based on aliphatic and aromatic dicarboxylic acids and an aliphatic dihydroxy compound (component i) and

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from 20% to 95% by weight, based on the total weight of components i to ii, of at least one renewable raw material (component ii) and

from 0.1% to 15% by weight, based on the total weight of components i to ii, of a compound as component iii that comprises two or more epoxy groups in the molecule.

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- The biodegradable polyester mixture according to claim 1 wherein said component i is polymerized from:
  - A) an acid component comprising

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a1) from 30 to 99 mol% of at least one aliphatic or at least one cycloaliphatic dicarboxylic acid or its ester-forming derivatives or mixtures thereof

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- a2) from 1 to 70 mol% of at least one aromatic dicarboxylic acid or its ester-forming derivative or mixtures thereof and
- a3) from 0 to 5 mol% of a sulfonated compound,

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- the mole percentages of said components a1) to a3) adding up to 100% and
- B) a diol component comprising at least one  $C_{2}$  to  $C_{12}$ -alkanediol or a  $C_{5}$  to  $C_{10}$ -cycloalkanediol or mixtures thereof

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and if desired additionally one or more components selected from

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- C) a component selected from
  - c1) at least one dihydroxy compound which comprises ether functions and has the formula I

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$$HO-[(CH_2)_n-O]_m-H$$
 (I)

where n is 2, 3 or 4 and m is an integer from 2 to 250,

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c2) at least one hydroxy carboxylic acid of the formula IIa or IIb

$$HO - \left[ -C(O) - G - O - \right]_{\overline{p}} H$$

$$(IIa) \qquad (IIb)$$

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where p is an integer from 1 to 1500, r is an integer from 1 to 4 and G is a radical selected from the group consisting of phenylene,  $-(CH_2)_q$ -, where q is an integer from 1 to 5, -C(R)H- and  $-C(R)HCH_2$ , where R is methyl or ethyl,

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- c3) at least one amino- $C_{2^-}$  to  $C_{12^-}$  alkanol or at least one amino- $C_{5^-}$  to  $C_{10^-}$  cycloalkanol or mixtures thereof
- c4) at least one diamino-C<sub>1</sub>- to C<sub>8</sub>-alkane
- c5) at least one 2,2'-bisoxazoline of the general formula III

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$$\begin{bmatrix} N \\ C \end{bmatrix} = R^{1} - C$$
(III)

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where  $R^1$  is a single bond, a  $(CH_2)_z$ -alkylene group, where z=2, 3 or 4, or a phenylene group

c6) at least one amino carboxylic acid selected from the group consisting of the natural amino acids, polyamides obtainable by polycondensation of a dicarboxylic acid having from 4 to 6 carbon amended sheet

atoms and a diamine having from 4 to 10 carbon atoms, compounds of the formulae IV a and IVb

HO 
$$-\left[-C(O)-T-N(H)-\right]_s$$
 H  $-\left[-C(O)-T-N(H)-\right]_t$  (IVb)

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where s is an integer from 1 to 1500, t is an integer from 1 to 4 and T is a radical selected from the group consisting of phenylene,  $-(CH_2)_u$ -, where u is an integer from 1 to 12,  $-C(R^2)H$ - and  $-C(R^2)HCH_2$ , where  $R^2$  is methyl or ethyl,

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and polyoxazolines containing the repeat unit V

$$\begin{array}{c|c}
 & \text{N-CH}_2 - \text{CH}_2 \\
\hline
 & \text{O=C-R}^3
\end{array}$$

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where  $R^3$  is hydrogen,  $C_1$ - $C_6$ -alkyl,  $C_5$ - $C_8$ -cycloalkyl, unsubstituted or  $C_1$ - $C_4$ -alkyl-monosubstituted, -disubstituted or -trisubstituted phenyl or is tetrahydrofuryl,

or mixtures of c1) to c6)

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and

- D) a component selected from
- 25 d1) at least one compound having at least three groups capable of ester formation,
  - d2) at least one isocyanate
- 30 d3) at least one divinyl ether

or mixtures of d1) to d3).

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- The biodegradable polyester mixture according to claim 1 or 2 wherein said component ii is one or more selected from the group consisting of starch, cellulose, lignin, wood and cereals.
- 4. The biodegradable polyester mixture according to any of claims 1 to 3 wherein said component iii is glycidyl acrylate and/or glycidyl methacrylate.
- 5. The biodegradable polyester mixture according to any of claims 1 to 4 which comprises

from 10% to 70% by weight of said component i and from 30% to 90% by weight of said component ii, each percentage being based on the total weight of said components i to ii.

- 6. The biodegradable polyester mixture according to any of claims 1 to 5 which comprises from 0.5% to 10% by weight of said component iii, based on the total weight of said components i to ii.
- 7. A process for producing biodegradable polyester mixtures according to claims 1 to 6, which comprises said components i, ii and iii being in one step mixed and, in the presence or absence of a free-radical initiator, reacted.
- 8. A process for producing biodegradable polyester mixtures according to claims 1 to 6, which comprises a first step of said component iii being mixed with and, in the presence or absence of a free-radical initiator, reacted with one of said components i or ii and a second step of the hitherto unused component ii or i being mixed in and reacted.
- 30 9. The use of the biodegradable polyester mixtures according to claims 1 to 6 for producing blends, moldings, films, sheets or fibers.
  - 10. Blends, moldings, films, sheets or fibers comprising biodegradable polyester mixtures according to claims 1 to 6.